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THE HOSPITAL WORLD

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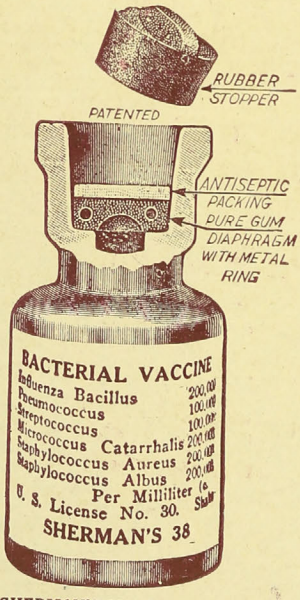
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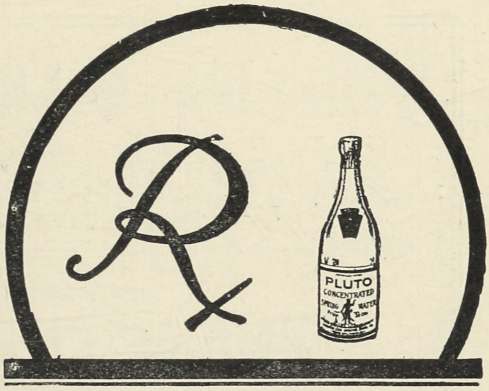
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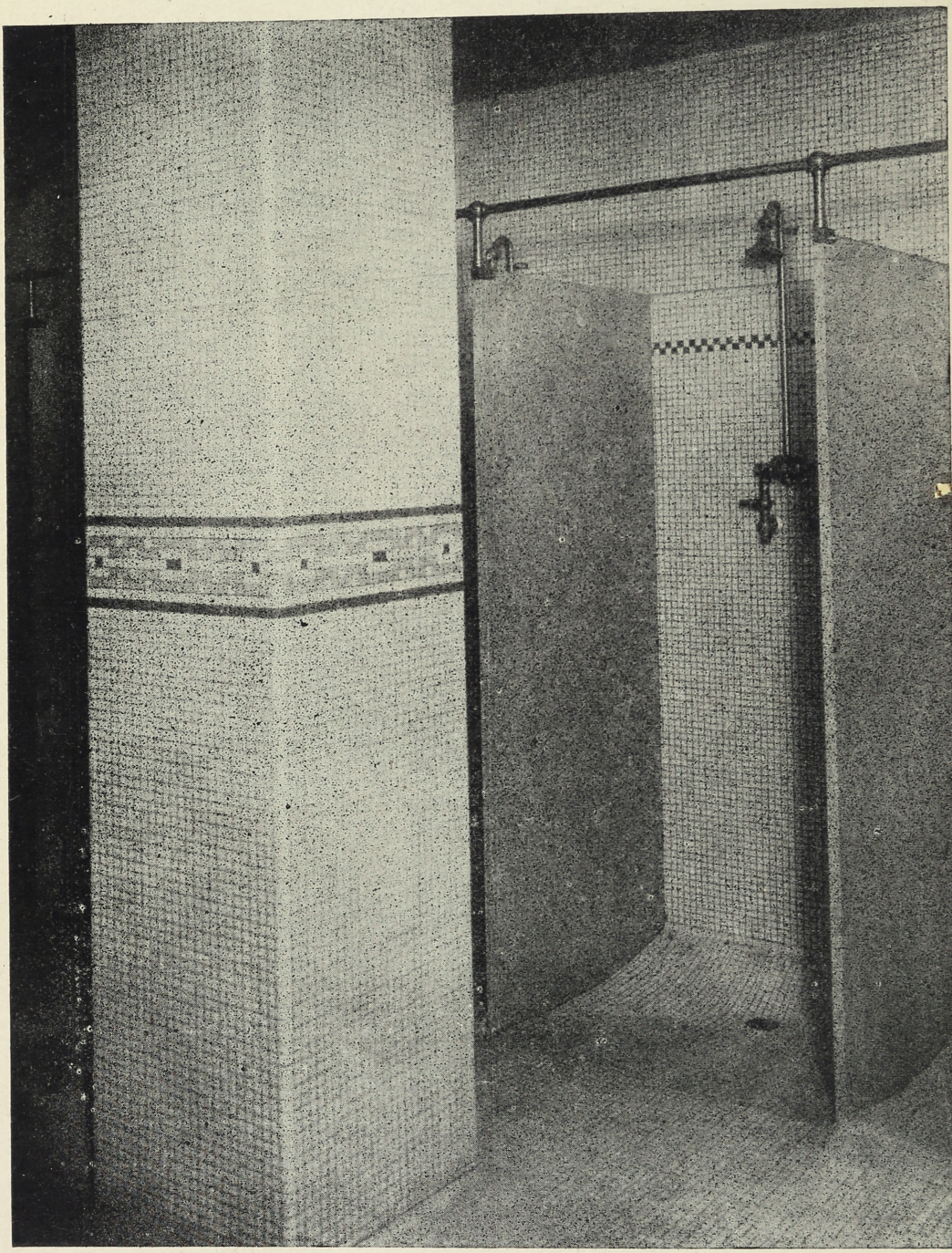
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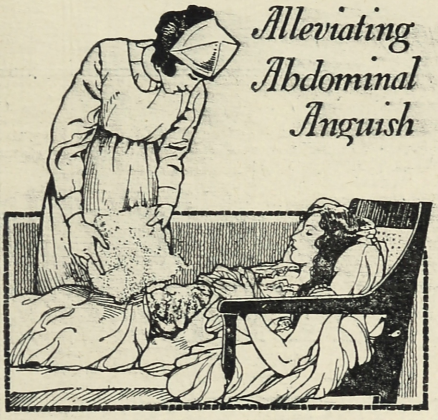
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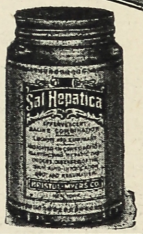
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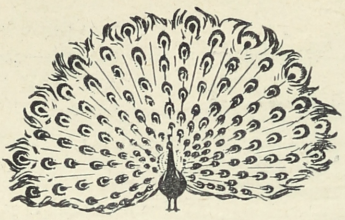
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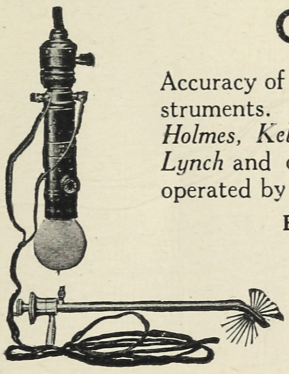
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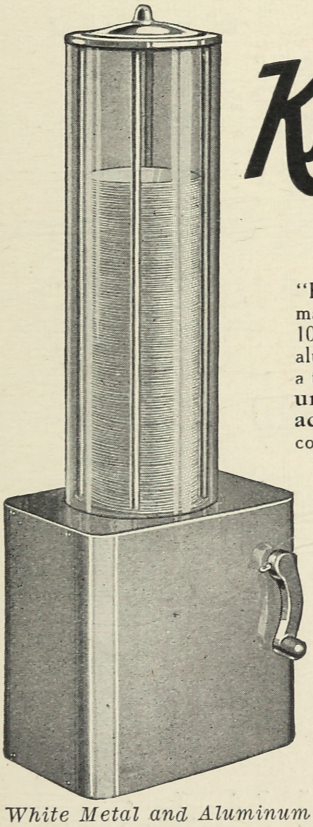
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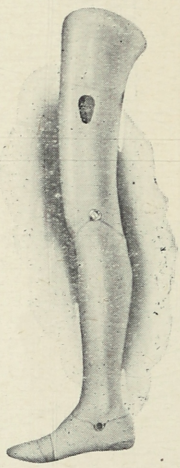
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The Hospital World

TORONTO, CANADA

A Journal published in the interests of Hospitals, Sanatoria, Asylums and Public Charitable Institutions throughout the British Empire

Vol. XX. TORONTO, AUGUST, 1921 No. 2

Editorials

GETTING TOGETHER

THE medical staff of standardized hospitals are supposed to hold monthly meetings, at which a review is made of the work done. consideration given to pending problems, and an outline made of projects to be undertaken.

Such meetings will make for harmony among the members of the staff, and will tend to reduce the friction to the minimum.

Even in hospitals which do not come up to the standard there is no reason why this good rule should not be observed. In the hospitals in the smaller towns all the practising physicians in the place are as a rule in the medical staff. In quite a number of these towns there is often a spirit of jealousy or bitterness which does injury to the profession as a whole. Such things ought not to be. One way of

preventing the occurrences of these unpleasant conditions is to have frequent meetings and free discussions on points of difference as well as in points of agreement.

Men cannot do first-class work nor live happily if discord prevails among them. In every way it pays to "Let Brotherly Love Continue."

As with the medical staff, so with the administrative departments of a hospital—particularly of the larger institutions. The superintendent is wise who meets weekly in council with the superintendent of nurses, the chief medical house officer, the matron, the engineer, the steward and any other departmental heads to discuss any and all subjects in which they may be commonly interested. He will glean much information of a helpful nature from such conferences, and every departmental head will be stimulated by such intercourse and great good will accrue to all, which will reflect itself in the character of the work rendered by the hospital as a whole.

THE ENVIRONS

WHILE the main energies of hospital folk are centred on the inside of the hospital—the wards, operating rooms and equipment generally—looking toward the comfort of the patient consigned to his bed, the outside must not be forgotten.

How important the first impression of an incoming patient! The setting of the building and its out-

side appearance—they do much to make or mar the reputation of a hospital.

We have always stood for the suburban location. The sick man, like the well man, enjoys the open spaces, where he can get a view of cloud flocks and blue sky fields; of rolling country with smiling fields of grain and meadow; of grazing herds and singing birds; of groves or copses or wood lots in the distance with plenty of friendly trees in the foreground; with flower gardens and grassy terraces; with ponds or running streams. All these make for quick recoveries and short convalescences. Nowadays verandah, and, even when lying, can enjoy the direct sunshine, the fresh air free from dust and smoke and the quietude which does so much to compose their nerves and minds. How much better are they thus remote from the fume and din of the city!

So hospital trustees should see to it that the building they erect has all of the advantages they enjoy in the mansions and palaces in which many of them dwell. If the country is the ideal place for the well, how infinitely more important for the sick!

CLEANLINESS

THE up-to-date hospital may be kept clean with the minimum amount of effort and expense. Unfortunately there are only a very few up-to-date hospitals in so far as relates to lodging places for dust. Even some of the most recently built are not as perfect as

they might be. In only a few do we find coved bases and rounded ceiling angles; no ledges anywhere; baseboards flush with walls; large window panes instead of small, glass door knobs, tops of cupboards—such as are not in the wallslanted downward and forward; floor drains in operating rooms, kitchens, sickrooms; absolutely plain doors, push plates on doors, and the many other devices for prevention of the accumulation of dirt and for easy cleaning generally. Numerous base plugs for vacuum cleaner attachments should be provided. Walls should be of durable color, with smooth and washable surface. The lower four feet darker in color to withstand the discoloration of soiled hands. The wall base should be eight or ten inches in height, thus protecting the walls from splashing from floor scrubbing.

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A Journal published in the interests of Hospitals, Sanatoria, Asylums and Public Charitable Institutions throughout the British Empire

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Original Contribution

THE EFFECT OF SUNLIGHT UPON WHITE MEN WITH SPECIAL REFERENCE TO THE CANADIAN WEST

By Chas H. Huestis, M.A., D.D., Red Deer, Alta.

I must apologize to you, gentlemen, for inflicting my views upon you. Being a layman I am not able to discuss the matter in hand with the technical efficiency to which you are accustomed and doubtless you will be ready with criticism when I am through. I do not hope to convince you all of the truth of my thesis—especially those of you who happen to be over forty years of age. I am myself, however, convinced of the general truth of my theory, and I believe the future experience in this country will bear me out. The matter is one of first importance, as it seems to me, to our western civilization.

Perhaps, I may begin by stating the movement of my own mind in the development of the thesis of this paper. I had spent a number of years in the semi-tropical islands of Bermuda, and I was again and again impressed with the similarity of much of the West with what I had experienced down there. And yet the climates of the two places were so dissimilar. One day, while reading an article upon the effect of sunlight upon protoplasmic matter, it flashed across my mind that in this direction lay the solution of the problem. Though the West differed from the tropics in climate, yet they were alike in one particular, namely, that both were regions of almost constant sunshine. "Sunny Alberta." How we have loved the name, and gloried in our sunny skies. And well we might, for are they not the creators of our wealth? But what if this sunshine, which is the promise of our harvests, is at the same time the source of

many of our bodily ills? If white men were not able to live permanently in the sunny lands of the South, might they not be forced to abandon the equally sunny lands of the North? Acclimatization had not been possible there, would it prove possible here?

In discussing this question I found the literature very scanty. Von Schmaedel had made an interesting study of the pigmentation of the skin of races living in sunny countries. We have also an ever-increasing literature upon the effects of light upon the human organism, and especially of late as to the therapeutic effect of radio-active substances. This, it has been learned, is due to the chemical effect of the ultra-violet rays upon the cells in the way of stimulus. Finsen proved that the alterations to the skin which occur when exposed to intense light were due to these rays, and by their application he was able to destroy certain *foci* of disease. This stimulated further study of the therapeutic action of light—particularly the fruitful researches of Bernhard and Rollier as to the effect of light upon internal maladies. The study has been still further carried on by Van Tappleiner who discovered that the effect of light rays upon living organisms was modified by the presence of dye stuffs—infusoria perishing when the dyes were dilute, but remaining alive in denser solutions. Dr. Fritz Schans in a recent article published in the *Scientific Monthly* (January, 1920) has demonstrated that the form of plants is altered by light waves of short length and chiefly by ultra-violet rays. He thinks the colors of plants have for their function the selection of rays beneficial to growth, and not to charm insects and bees to assist them in the process of fertilization, as is the popular idea. They act, he says, as sensitizers in the same way as the chlorophyl of green leaves, and they also act as a protection against rays that would be harmful. Two Frenchmen, Bohn and Marre, have written upon the effect of sunlight upon white men, and their theories have made a profound impression in Europe. But, perhaps, the most important contribution to the subject is a book I found in the course of my investigation, entitled, "The Effects of Tropical Light Upon White Men," by Major C. E. Woodruff, U.S.A. I am particularly indebted to this investi-

gation of the subject in the preparation of this paper, though I had reached my conclusions before I read this book.

I will discuss the following points:

The effect of light waves upon living organisms.

The pigmentation of the skin of races whose habitat is under sunny skies as a defence against the effect of sunlight.

The pathology of sunny lands inhabited by white men.

Some practical suggestions as to the habits of white men who desire to live in the West of Canada.

1. A brief resume of our present knowledge of light rays may be helpful. You are familiar with the new conception of matter which has arisen as the outcome of the study of certain radio-active substances. Instead of the old conception of matter as composed of invisible, metaphysical, units called atoms, the idea now holds that atoms themselves are divisible, and are composed of smaller particles called corpuscles or electrons, which dash to and fro within the atom and revolve with inconceivable rapidity. You know how under the conditions of a Crook's tube an electric spark will produce dis-association of these corpuscles, which rush forth in a stream and produce ether stresses which are known as *cathode* rays. Certain substances such as radium seem to possess the power of giving forth a constant stream of corpuscles, producing stresses which are known as *Becquerel* rays. We use the word "stress" because it seems to be what is produced when a stream of corpuscles is started or arrested—a stress is given to the ether which is carried outward at the velocity of light. These stresses follow one another at intervals, and the length of these intervals—or waves, to use the old term—constitute or determine the character of the wave. It must not be forgotten, however, that these waves are not to be conceived as movements of the ether, which is an immovable substance, but simply a stress of the same, as when a hammer falls upon an anvil imbedded in concrete the stress is carried from top to base, though the anvil itself does not move.

Now the slowest and longest variety of waves that have been discovered are called *Hertzian*. These, as you know, are made use of in wireless telegraphy. Waves shorter still affect the body as heat; shorter still they have the power of affecting the

retina of the eye and producing what is known as the consciousness of colors—red, yellow . . . . violet. Beyond the violet there are waves still shorter which, though they do not affect the retina consciously, produce effects upon certain chemical substances and are used in photography. They are also of incalculable value in the elaboration of the energy of plant life.

Some years ago certain rays were found even shorter and quicker than the actinic rays of the sun—so short, indeed, they proved to be that they can penetrate certain substances without disturbing their corpuscular arrangement. These were called by their discoverer, Roentgen, "X-rays." Later M. Curie and his clever wife made discoveries in the powers of radium, and found that this substance emits particles which flow in fairly slow streams but which impart stresses of great velocity and rapidity.

There is no need that I do more than point out to you these facts which are so familiar; but let us not forget that in all these different varieties of light waves, we do not have anything *new*. All are really of the same kind, and are produced in the same way, namely, by changes in the motions of the corpuscles which compose all kinds of matter.

Coming now to consider the effects of light rays upon living organisms, you are familiar with the therapeutic value of certain kinds of rays. You know how effective they are in reducing growths of a malignant nature upon the surface of the body. They also seem to be able to penetrate some distance beneath the surface of the body, but there they rapidly lose their efficiency. You know that they have an exceedingly stimulating effect upon living organisms, and are the source of all life upon our planet. You also are familiar, with the fact that exposure to the direct rays of the sun, especially in hot climates, is prejudicial to health, and often fatally so. We know that white men have not been able to make the tropics their permanent abode. More than this, we are quite familiar with the effect of sunlight upon bacteria, which succumb more rapidly to this than to any known antiseptic, so that perhaps the most effective disinfecting agency is the exposure of a room or garments which have become in-

fected, to the rays of the sun for a time. No bacteria are able to stand for long this bombardment; they love darkness rather than light! This is due to the extreme irritability of the protoplasm of which bacteria are largely composed. Protoplasm is chiefly nitrogenous, and there is no substance so easily set off as nitrogen, which, as has become familiar to us in the recent war, is the basis of our most powerful explosives..

In the temperature of the human body protoplasm seems to function most readily—but when the temperature is raised a few degrees trouble ensues, and unless the rise of temperature is arrested and reduced the organism perishes. You are acquainted with the destructive effect of radium. M. Curie has asserted that a pound of radium in a room would probably kill every one present by the power of its bombardment. A small particle of radium carried in the vest pocket produced a sore in the side which for weeks resisted every effort to heal.

Now the short, or actinic, rays of the sun are very similar to those of radium, and are also destructive, as seen in sunburn, glacier burn, and sunstroke. In the last named it is probable that heat combines with light to produce brain paralysis, but this is not so with glacier burn.

From the study of the effects of sunlight upon living organisms we find them twofold: 1.) The first effect is metabolism —increasing the oxygen carrying capacity of the red blood corpuscles. (2.) But when the process is long continued we hace actual destruction of the protoplasm and the derangement of the molecule. The latter is also the immediate effect where protoplasm is not protected by some aqueous medium.

The metabolic effect of sunlight is most favorably studied in plant life. We must remember, however, that plants are the true children of the sun, and we cannot determine everything regarding the effects of sunlight upon animal life by studying its effects upon plants, but we can learn something. In the marvellous chlorophyl of the plant we see manifested the power of storing up energy of the sun's rays, energy that later the animal makes use of. In all plant life we find adaptive arrangements which have for their end the protection of the plant from the destructive effects of the sunlight. Every gar-

dener knows how necessary it is for some plants to rest awhile in the darkness in order to a sturdy and vigorous life. The plant also seems to possess the power of "stepping down" rays that might prove hurtful into forms more congenial, in some such manner as the transformer steps down the dangerous electricity on the mains so as to protect our dwellings. It must also be remembered that while the protoplasm of plants and that of animals are the same, the function of the plant is really to store up energy so that it may be of use to animal life. The plant must have sunlight in large quantities, it is necessary to its growth. But to man and animal life it is not so necessary. Animal life thrives upon very little sunlight, or none at all. This is, of course, heresy in the face of the common notion as to the blessing of sunlight; but it is very doubtful whether sunlight is *directly* beneficial to animal or human growth and development; and too much of it is certainly harmful, especially when nature has not provided protection against it, as it is with the colored races and with some birds and animals which have sunny places for their habitat. Since this is heresy let us think about it for a little while.

It is interesting, in the first place, to remember that animal life is naturally aquatic. Human life begins in an aquatic medium, and at a certain period of prenatal life is equipped with gills. The rhythms of life seem to point back to a time when the effects of the tides were felt as vital stimuli. The majority of the cells which compose the body are aquatic in habit and marine at that, requiring a saline solution in order to vigorous existence. Now water absorbs the ultra-violet rays of sunlight, and thus protects the cells which could not otherwise exist. The liquid in which the brain literally swims, is not simply nutritive, it is also protective, like the hair upon the scalp, from the destructive actinic rays.

It is interesting to consider further, that most animals, like the cat, are nocturnal in habit, passing the day in dens and the hollow of logs and trees, in holes in the ground, and coming out at night. This is true also of the natives of sunny climes. The negro is by nature a nocturnal animal, preferring to spend the day in sleep and coming out at night to sing and dance by the

light of the moon. Animals that live in the daylight are protected by fur and feathers and the pigmentation of skin from the sunlight, the parts most exposed being darker than the rest; while naked animals like the rhinocerous and the elephant, have a dark skin. Black ants live in the sunshine and white ants come forth at night. Ants place their white eggs in the sunlight for a short time every day, but when the sun becomes oppressive they remove them to their nurseries.

All these instances, and they might be largely multiplied, prove that nature and instinct protect animal life from too great sunlight, indicating that while small quantities of sunlight are doubtless beneficial, though it is probably its warmth that is the attraction, in larger measure it becomes hurtful and even positively fatal.

2. When we pass from animal to human life we find a new factor presenting itself, namely, *reason,* which makes it difficult to prophesy much from the lower standpoint. Reason modifies instinct and often flatly contradicts it. Men have most of the instincts of the animal—and then some, but they will pursue lines of conduct contrary to both instinct and reason if these lie in the path of desire.

However, we find that when we study the life of mankind with reference to our theme, that both nature and reason combine, the one to protect, and the other to seclude him from the rays of the sun. As we study the distribution of the races of mankind upon the face of the earth, one fact stands out prominently, namely, that nature has provided that the skin of mankind is dark or light in proportion to the sunniness or cloudiness respectively of the land which is his true habitat. The degree of heat seems to be immaterial, for we find that both Arctic natives and those of the tropics are equally dark complexioned, the former for protection from the reflected sun glare, the latter from its direct rays. Only in cloudy lands do we find white men at home. This fact may be formulated into a law of whiteness, namely, "*The whiteness of a people is in proportion to the cloudiness of the skies under which they live.*" Cloudy and foggy lands are, and have ever been inhabited by big blonds; sunny lands by little, dark men. Compare the big

yellow Swede with the little dark Italian. Think of the immense amount of virile force and intelligence which has come from the fogs of Ireland and the north of Scotland to aid Britain in her conquests of war and peace. The reason why men in sunny lands are dark is, of course, because the dark complexion cuts off the actinic rays of the sunlight which are so dangerous to animal protoplasm.

It would seem that we shall have to revise our old ideas as to the unvarying benefits of sunlight, at least for white folks. In the earliest days our ancestors followed instinct more than we do now—and were more robust—they avoided the sunlight and spent as much time as possible in the shade. And this is the case to-day with people of little culture; in spite of the doctors they persist in darkening their homes. A great deal of the eye trouble which is becoming prevalent among children is due to too great exposure to sunlight. The instinct of the mother is to put her baby for his morning nap in a quiet darkened room, until some doctor gives orders that the veranda or the door step is the place. Then you have a child stimulated to an activity and development far too rapid, and later on anemia and arrested development.

The custom too of placing hospitals so that every room possible is flooded with light is not good therapeutics, as it seems to the writer, and many a patient would make more rapid convalescence if shielded from the irritating rays of the sun. Were it not for autohypnotic suggestion the recovery would be more retarded still. The patient has been made to believe that "sun baths" are the great thing, and "belief" helps, as the Christian Scientists have proved. But the truth would seem to be that while sunlight should be permitted to bathe every sick room for some time during the day, provision should be made by means of Venetian or other blinds or shutters, for shutting it off most of the time. Fresh air is imperative and should be provided by forced ventilation.

I do not think it will be necessary for me to spend more time in seeking to demonstrate the truth of the law of whiteness given above. There is another fact equally demonstrable. and that is that white men have never been able to permanently

live in sunny countries. This is a large question involving the migrations of the race through all its history; we have not time to go into the question. But think of India. This is a sunny land which has been ruled by white men for some generations. But no white man dares live there for any great length of time, nor does he attempt to bring up his children there. If he does so they quickly wilt. There is no third generation of whites in India, I am told on good authority.

Of more interest to us is the presence of white men upon the American continent, especially those parts of the continent most exposed to sunshine. The natives of this continent were dark and red men. The people who now occupy it have come mostly from Europe, the more aggressive and progressive from northern Europe which is cloudy and the habitat of blonds. Under the sunnier skies of America there has been developed an aggressive force unparalleled in the history of the world—so much for the stimulus of sunlight. There has also at the same time been produced a new disease—or rather a new phase of an old one—namely, *Americanitis*—so much for the too great stimulation of sunshine. It is not hard work that breaks down people who live in Western America and Canada. Hard work is wholesome—most people do not do enough of it. It is nerve exhaustion due to over stimulation from sunlight. Of course, there are other causes—the artificial life of modern times, etc., but I am persuaded that the chief cause is as indicated.

The mortality of blond people has been much greater in the United States than of dark, so that the continent is being peopled by dark men; these survive, the others go down, or become unproductive, and have no or few descendants.

The first feeling on coming to Sunny Alberta from the far east is one of increased well being and of greater inclination to activity. New comers exult in the climatic conditions and write home enthusiastic letters about it. But after a few years they begin to feel the effects of this constant stimulation. The women break down more quickly than the men, as we should expect. It is known that suicides and insanity are more common during bright months of the year than during the dark. School teachers in the west tell me that they dread the sunny days.

for while the children are brighter and quicker, they are much more hard to manage than on cloudy days—as we should expect again.

The remarkable success of sanataria on the Atlantic coast may be partly explained by the comparative absence of bright sunlight due to cloudy skies, and the consequent restfulness; and, perhaps, the most important part of the Weir Mitchell rest care is the removal of the patient to a darkened room. Careful studies made in the sunny States of Western United States reveal a great prevalence of neurasthenic and apeptic conditions, and this is true of my own and other's observations in Alberta. These are usually greatly helped by a sojourn at the Pacific Coast, where the clouds, like a "divine umbrella," give the sufferer relief. This may also explain the instability of the peoples of the West, where all sorts of vagaries, political and religious, seem to have their origin. The Britisher, who seems to have no nerves to speak of, takes his morning plunge in ice-cold water and goes forth to conquer the work with a codfish expression on his face, and confirmed indisposition to hurry; but he will stand more than your nervous, high-strung American, who produces results while the Britisher is thinking over what to do next.

Some years ago Dr. Clouston, one of Scotland's greatest alienists, visited America, and while there said some things worth remembering.

"You Americans," he said, "wear too much expression on your faces. You are living like an army with all its reserves engaged in action. The duller countenances of the British population betoken a better scheme of life. They suggest stores of reserved nervous force to fall back upon, if any occasions should arise that requires it. This inexcitability, this presence at all times of power not used, I regard (said Dr. Clouston) as the great safeguard of our British people. The other thing in you gives me a sense of insecurity, and you ought somehow to tone wourselves down. You really do carry too much expression, you take too intensely the trivial moments of life."

To the same end was Herbert Spencer's address at a dinner given in his honor as he was leaving the United States some years ago. He took for his theme "The Gospel of Relaxation"

and preached a sermon like that of Clouston above. But neither the alienist nor the scientist saw or mentioned the chief cause of this intensity—this "bottled lightning," as some one has called it, kind of personality which characterizes the American people, and the Canadian people too. It is climatic, and is due chiefly to the fact that a race of men is attempting to live and develop under skies to which they are not fitted, owing to their white skins. Professor James says that Americans must cultivate the habit of relaxation or perish, and he is right in the opinion of the present scribe. Instead of strength we are cultivating what Clouston calls a sort of "irritable weakness," which produces results rapidly, but at an awful cost. The problem is an important one and demands earnest study.

It has been stated that the death rate in the U. S. increases with the amount of sunshine, but I am not able to corroborate this statement. But I am informed that consumptives in the later stages of the disease, who come to the west go off with great rapidity, and physicians of California have warned eastern doctors not to send such patients out there. There is also a growing conviction that some nervous weakness is one of the predisposing causes of tuberculosis, and this sunshine can only intensify. Of course, here again the complexion of the patient has its part in the problem, and it is as important, as some one has put it, "to know what sort of a patient the disease has got as to know what sort of disease the patient has got."

But I need not pursue the matter farther. I have placed the subject before you to the best of my ability, for your consideration. I believe it to be worthy of the same, and I hope some one more competent than I will carry the investigation to completion. I shall close with some practical observations.

4. Let us keep carefully in mind the two-fold effect of sunlight upon the human organism: First, increased metabolism and consequent larger excretion of carbonic acid; next, nervous exhaustion. Remember also that blonde men and women suffer more than dark from the stimulation of sunlight. What then are the practical conclusions as regards conditions of life in Western Canada?

Here we live under the sunniest skies in the world, outside extremely arid regions which are unpopulated, or scantily so. It is true that the effect of the sun's rays is moderated by the latitude and also by the altitude of our west land, but this is true only of the longer rays of the sunshine. Of the shorter, actinic, rays we get the full benefit, and these are the ones so destructive of protoplasm. Besides our altitude produces more rapid heart action, which helps on metabolism. Can it be that what has proved true of the inability of white men to colonize permanently other sunny climes in the past will find an exception here? I cannot see how this can be loath as I am to come to this unsatisfactory conclusion. Indeed, you doctors are finding the truth of my conclusions in your practice every day. You are meeting, so some of your number inform me, with neurasthenic and other conditions almost entirely due to loss of nervous vigor. Uric acid conditions seem to be especially prevalent, and exceedingly stubborn to treatment. The etiology is simply inability on the part of the nervous system to control the chemistry of the body. And this is complicated by the instinct to seek large nutrition with the consequent overloading of the digestive organs. Anything which tends to lower the nervous tone is a menace to the entire system, and will manifest itself in the weakest part of the organism. So that many complaints whose origin is obscure are probably due to lack of nervous vigor, due to excessive stimulation from sunlight.

Personally I have come to the conclusion that white men will not be able to permanently colonize the West of Canada outside British Columbia, west of the mountains. In two or three generations they will have learned their lesson. The only extenuating fact is the marvellous productivity of this country which will make it possible to get out after having made "our pile."

Meantime the practical question is, what can be done to mitigate the evil effects of sunlight so that life may be made endurable, and residence in the West prolonged. This question is of even greater importance when we consider the interest of the rising generation, whose energies are so occupied with the processes of growth and development that they are less able than

adults to withstand extra pressure. We must certainly change our habits of life from those we have been accustomed to and live more like they do in the south. We must not only protect ourselves as much as possible from the sunshine, but we must also cultivate habits of rest and relaxation. Early to bed and early to rise must be the rule with a siesta at midday. You haven't time to do that? Very well, nature will see that you take time a little later on.

Instinct has already done something to suggest accommodation to conditions of life here. The typical house of the west—the bungalo cottage, all on one flat with a wide, shady veranda—is the right sort of house to live in. Windows should be protected by green blinds or shutters which can be closed during the sunniest parts of the day, and which admit of ventilation. In the south every one retires within darkness in the middle hours of the day, and this may be necessary here, and certainly should be the rule for women and young children during the summer months.

The formation of improvement societies in all our towns and villages would be a good movement, with a chief function of encouraging and assisting the planting of shade trees about the homes of the people. Trees absorb large quantities of sunlight and thus protect the dwellers beneath them. Our remote ancestors had a penchant for trees, and spent much time in swinging from branch to branch in unbrageous shades. It must have been good for them.

In the interests of childhood certain changes in the length of the school day and the school year are certainly indicated. The school day ought not to be longer than from 9.30 in the morning to 3 in the afternoon for older children, and from 9.30 to one for the younger, with recess at noon for the former and at 11 for the latter. The school year should close not later than the first of June, or even earlier would be better, and all examinations for grade—if examinations must be held—should be in April. It is a curious state of affairs that while we hold the examinations of University students in April, when the forces of life are strong, we hold those for boys and girls when these are largely exhausted. Teachers complain of this and say

that larger numbers would pass were the examinations held earlier in the year. The month of June spent in school is a positive waste of time, which would not be so serious were it not a cause of nervous irritation and arrested development. Just as it is true that men live not by what they eat, but by what they digest, so it is true that they are educated not by what they study, but by what they assimilate. Fatigue is the deadliest enemy of the development of children—Gots Muts calls it a positive disease—and they should be carefully guarded from the same. Attention, too, which is the supreme achievement of civilized man, is impossible when the nervous forces are at a minimum.

The windows of the school room should be so arranged that the lower parts can be darkened and the light come in from above. Walls should never be white, which reflects all the rays of the sun, but green, yellow, or terra cotta. Yellow, which is so pleasing to young children, is probably the best color.

In speaking of these matters may I call attention to the recent effort made on this continent to lengthen the day by the simple, but foolish, device of putting the clock back an hour. It was tried one year in Alberta, and that was enough! It will never be tried there again. Living in a country where during the summer it is possible to read your newspaper out doors at ten at night, it would hardly seem to be necessary to increase the length of the day still more by adding an hour to the morning. It proved to be a positive crime against childhood, adding practically two hours to their already too stimulating day of almost constant sunshine. If the dwellers in eastern cities desire this sort of thing, they are welcome to it, but they must not seek to make it a National law.

Continuing our theme of the habits for the West, I would say that it might be the part of wisdom to imitate the people of the sunny south by dressing in colors which intercept the rays of the sunlight which are hurtful. Where outer garments of light color are used the undergarments might be black or yellow. Animals which have white fur or feathers have a black skin. There is no being quite so happy and contented as a negro dressed in white. The habit of some women going about

in the day time with neck and shoulders bare, or covered with some flimsy material, is dangerous, as is the increasing habit at summer resorts of going bareheaded. The umbrella and parasol habit, so common in the south, might be cultivated by us with profit in the summer. These should be made of black, green or yellow material, never of white.

In social life women should confine their afternoon calls during the summer—if they make them—to the later hours of the afternoon—say between four and seven. The color of houses both inside and out, ought to receive attention in accordance with the color scheme mentioned above. White should be avoided as much as possible. During the day sunlight should be let into the bedrooms in plentiful supply, while they are not inhabited, but the blinds should be carefully drawn on retiring to protect the sleepers from the early morning sunshine which prevails during the summer.

The warm bath should take the place of the cold plunge so much affected by Britishers, as the latter are too stimulating. The nerves receive stimulating enough without this heroic treatment. It may be that I am opposing some pet theory, but I think the facts will bear me out. The warm bath taken in the middle of the day before the siesta, or at night before retiring, will be found most restful to third nerves and will relieve many insomnias. It may be that light draughts of alcoholic drinks will be indicated in cases where the digestive functions are arrested. It is now understood that alcohol is not a stimulant, but a sedative, and is helpful at the close of a day of nervous activity. Even in "bone dry" lands it can still be obtained by the potent aid of a doctor's prescription! In the south, curry is used in large quantities to promote digestion. This is an abnormal condition, but it is to be remembered that the thesis of this paper is that the life of white men in the West is necessarily abnormal.

In cases of neurasthenia and other like conditions due to loss of nervous control, it is doubtful whether a cure can be effected here. The course in cases which I have observed of such ailments is usually as follows: First a very marked improvement, due to increased metabolism, then a return to the trouble in an

exceedingly stubborn form. In all such cases a prolonged stay under cloudier skies is the thing. Fortunately we in Alberta do not have to go far for this, for the Pacific coast is near at hand, though in the summer time this region is also a sunny one.

As to the question of nutrition I have not sufficiently studied it to speak with even a degree of authority. But good nutrition is important to make up for exhaustion, and especially the nitrogenous foods and the free vegetables which are rich in vitamines. Rice as a vegetable might be made use of in the summer months as it is in the south.

Lastly, it is doubtful if persons of extremely light complexion should attempt to live in the West. To be a true inhabitant of Alberta the fashionable complexion should be that of a Cree or Stoney Indian. The following words of a woman who lived for some time in Colorado may be of interest to Alberta women:

"I wouldn't live in Colorado," she said, "if they gave me the State. There ought to be a sign on the boundary, 'Abandon all hope of complexion all ye who enter here!' Complexion! Why, there isn't one in the State. You cannot put on skin food fast enough to keep from being dried to the bone. The dazzle of light makes you squint till your face looks like a railway map for wrinkles. The climate braces you up till in your laziest moments you work like a steam engine. It stimulates you till your nerves are stretched to the highest tension, you walk on air, you talk fast, you fairly bubble with energy, and you think Colorado the most magnificent country on earth, till some day a friend comes out from a little dull town in New England, and after she looks at you she says, 'My dear, how you are aging!' People don't rust out in Colorado, they wear out. They do things in a year in Colorado which would take ten to do down east—and they show it in their faces. No Colorado for me, thank you. I don't want to grow up and old with the country. I want to stay where things stand still, and keep my complexion and my hair and my nerves.'" There is many a woman in Alberta who will say 'Amen' to all that. It is true that sunshine has a darkening effect upon the skin, but no white race has yet been able to get dark enough to stand permanently

tropical sunshine. It has been like the experiment of the French-Canadian, who tried to keep his horse without hay or oats; he had just succeeded, he claimed, when "Sie horse, she die."

People of light complexion go under quicker than dark, women quicker than men. The children suffer most, both directly and indirectly, for children begotten by parents whose nervous force is impaired cannot be vigorous. Nature balances the account by producing sterility in the third or fourth generation. In the meantime abortions are far too numerous.

I shall be glad to have your criticism of this paper which I am quite conscious is not as exhaustive as it should be. I hold no brief for the thesis outlined, and should be glad for my own sake and that of my family if it could be shown to be unsound. History is my great standby, and the history of past attempts to colonize sunny lands on the part of white men speaks with no uncertain voice. We shall do well to hear her words.

Meantime the medical profession can do much to make residence in the West more endurable. The public will take from you suggestions as to habits of life that they will not take from a layman like myself. If my theory is sound, then we should face the facts, and do what we can to meet the conditions involved. Having called your attention to the matter, my duty is done.

In closing to commend to you these words of John Morley:

"Things are what they are; they will be what they will be; then why should we deceive ourselves?"

THE PUBLIC HEALTH NURSE

M. Powers, M.D.

The task set before me to-day is to describe how the public health nurse could be employed in a rural municipality. The manner in which I intend to treat this subject is to ascertain, first and foremost, what the term "public health nurse" means, what is the nature of her activities, what work does she perform, what problems has she solved, in short has she given results in the localities where she has been employed that would justify

her continued and permanent employment. If this can be shown, I feel that, if, in our rural municipalities, we have similar problems to be dealt with, then we would be thoroughly justified in persistently and strongly advocating, on every possible occasion, the speedy introduction of this most valuable arm of the public health service into even our remotest rural districts, where it is probably needed the most. In this connection I will quote the eminent authority, Roseneau, who says that "the country is the weakest link in the sanitary chain," and that "each farmhouse represents in miniature all the problems with which the city deals by wholesale," and "is often not financially able to meet its sanitary requirements."

The varied literature on this subject gives us much valuable and interesting information, especially the many instructive pamphlets published by the Met. Life Insurance Co. and the United States Children's Bureau. From these we learn that at its inception in England almost sixty years ago public health or visiting nursing was intended solely for the indigent sick. No fees were charged and no recompense expected as those treated were too poor to pay. This method of nursing care was later taken up by other countries and its success was such among the poor that gradually it was extended to include the self-respecting and independent working classes, the largest element in our population who are unable to bear the expense of private nursing, especially if extended over any considerable length of time, and yet who are willing and wish to pay according to their means. This latter class now constitute the pay patients of most visiting nurse associations. The reluctance on the part of many who would rather do without nursing care than call upon or accept the services of the visiting nurse, whom they wrongfully look upon as only the charity nurse, has been one of the greatest drawbacks to the extension of this very valuable system,—according to the experience of Met. Life Insurance Co. This difficulty has been circumvented or obviated in New Zealand where the services of the Public Health Nurse—the Plunket Nurse—similar to the V.O.N., are now furnished free to rich and poor alike. This Plunket Nurse, called after Governor Plunket, who instituted it, covers the urban districts.

while the rural districts are attended to by the district visiting nurses paid directly by the government through the Federal Board of Health. Accordingly in New Zealand each and every individual has the benefit of the finest of nursing gratis, the taxpayers in general paying for it—an admirable system worth while studying, and which has given admirable results, especially in lowering the infantile mortality, though this has not been its chief and only aim.

The activities of the visiting nurse are manifold. She answers every call, concerns herself with the health of the community in general, as well as with that of the individual in particular and performs a double duty in that she cares for the sick and keeps the healthy well. She seems to have a special predilection in liking for the baby, for she starts to take care of him even before he is born in the pre-natal care she furnishes the expectant mother, remains with mother and baby in the lying-in period, and for the next few years, his most trying ones, keeps a watchful eye on him in the welfare stations, milk depots or baby clinics when she is not visiting him in his home. Later on, as the school nurse, she is his constant attendant, guarding him against the preventable diseases (especially tuberculosis) in her lessons on personal hygiene, and furthermore detecting in him physical defects, whose early removal means in later years all the difference between the delicate individual and the strong robust citizen. But the public health nurse is only human so she finds at times that, notwithstanding her well-laid plans and utmost endeavors, accident and disease will and do assert themselves; but even here she does not falter, for there you will find her, the practical visiting nurse, at the bedside soothing the weary sufferer, thus fulfilling, as the Duke of Devonshire so aptly styles it, the chief funtion of all nurses—that of bringing joy and happiness to the afflicted.

These in brief are her activities. Now what about the results achieved? In the words of one eminent authority, Lee K. Frankel, third Vice-President of the Met. Life Insurance Co., " the day has gone by when it is necessary to offer apologies for visiting nursing," and further that " this form of activity is to-day well recognized as an important factor in the im-

provement of health conditions." The United States Children's Bureau, in one of its publications, tells us that "recent years have proved that an indispensable part of any work for the welfare of babies, as well as of all public health work, is public health nursing," and adds, and mark this well, that "this service is needed in country and city alike."

The Bruchesi Institute, of Montreal, which employs the Sisters of Providence as visiting nurses, for their tubercular cases, has nothing but the highest of praise for the good work performed and the results accomplished in treating this dreaded and relentless white plague.

The Met. Life Ins. Co., which already expends annually half a million dollars in this service, is so well satisfied with all their visiting nurses throughout the United States and Canada, including our own Victorian Order, especially in maternity cases and in the treatment of the acute diseases such as pneumonia, typhoid and rheumatism, that it is making a determined effort to have this service extended to include especially the acute infectious diseases so peculiar to childhood.

And so on all along the line. In fact in all my reading I have yet to come across a single instance where the visiting nurse failed in giving adequate satisfaction.

But among all the brilliant results achieved none stand out more prominently to her credit than her lowering of infantile mortality. For instance, on this American continent, where some years ago one baby in every seven died, within its first year, now the rate is only one in ten—thanks to the activities of the public health nurse who, as one writer aptly puts it, has succeeded in changing the baby's first year from an extra hazardous occupation into that of only a hazardous one. Another instance is that of New Zealand where, since 1908, there has been a steady decline in the infant death rate until one city, Dunedin, has brought it down to 3.8, the lowest in the civilized world at the present day.

Now, far be it from me to try to belittle or decry in the least the thousand and one other efforts of preventative medicine in helping to lower infantile mortality (for I believe in giving credit where credit is due), but the point I wish to impress upon

you is this that, since the inception of visiting nursing, there has been a steady and progressive decline in the baby death rate wherever this service has been employed; and the more intensive the nursing and the greater the co-operation of the general public, the more marked has been the result, as in New Zealand where public health nursing has reached its ideal stage. Now I cannot speak for all rural municipalities, but I know that in our district, apart from other work, we could easily keep the visiting nurse busy from one year's end to the other attending solely to maternity cases, for our birth rate rivals the best in the world, but concomitant with this, our infant death rate is at times very excessive; and, to combat this, I make this my most earnest appeal to some visiting nurse association to throw in their lot with us, for such help is certainly and surely needed in our territory.

Now you might ask me if such work is feasible. My answer is that it certainly is, for the New Zealand nurse covers even the remotest country districts, whilst the American Red Cross Society is already prepared to furnish visiting nurses for every rural community. And what the New Zealand and American nurses have succeeded in doing I have the utmost confidence that our Canadian nurse can likewise accomplish, for, as Surgeon-General Jones, C.E.F., says: "The efficiency of the Canadian nurse is recognized by all as second to none in any part of the globe."

A DICTIONARY OF ALTITUDES

The Commission of Conservation, at Ottawa, recently issued a very important volume entitled " A Dictionary of Altitudes," giving a large amount of information in reference to climatic conditions in different altitudes throughout Canada. Such information is very important to medical practitioners, placing them in a position to advise patients as to a possible effect upon their health of a change in residence from one location to another. A copy of this dictionary may be obtained by medical men free of charge, all they have to do being to forward a request to the Commission of Conservation at Ottawa. We are satisfied that a number of physicians will be glad to take advan-

polyvalent vaccines rapidly stimulate the metabolism and defense of the body, with a resultant prompt recovery in general acute infections.

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THE ART OF THE THERAPEUTIST.

It is pleasant to think of therapeutics as an art rather than as a cold science. The thought suggests the mature artist who, through the medium of a few well-chosen tints, is capable of giving expression to his fancy or his emotions. To the ingenuity of the artist may be likened that of the therapeutist who selects his agents with consummate skill. He applies them deftly, here and there, as the artist touches the canvas with his pencil, with results that are definite because he has in mind a definite plan of procedure. Even the selection of a simple laxative—Pill Alophen, for example—is not a haphazard act, but entails the exercise of judgment and skill based upon experience and a comprehensive knowledge of physiology and therapeutics. The physician skilled in his art clearly sees certain indications for Pill Alophen—the necessity of relieving an over-distended colon with the least possible disturbance of a delicate organism, perhaps. Its action is mild, gentle, yet thoroughly efficient.

THE MEANING OF POWDERED MILK.

By Benjamin Apthorp Gould.

I often wonder how many people realize the inner meaning of the work we are doing and what it is going to mean to the future of the world. It is much more than a mere commercial undertaking, and the fact that we are building up a successful business is only one part of the satisfaction of accomplishment. Ever since I have been in this game of ours, I have had two great ideals of accomplishment before my eyes, and now I feel that we have come within sight of success for both of them. To reach the final and entire achievement of them will take many years, but this achievement now looks to be certain, and only its time in doubt. This time we can bring nearer to us by energy and intelligence, and the work of every one in our organization can serve to quicken the rate of our progress. The first of these great ideals has been the successful solution of the milk problem of great cities. We all know that this problem is one of the most important and most difficult questions of modern civilization. Few things concern so intimately the health and happiness of hundreds of millions of people. The future of our world depends upon the children who are being born and growing up to take their share in the work of the world, and nothing affects more closely their ability to do this work than the start they get in health. We are all built up from the food we live upon, and of all foods the most important and the most dangerous is milk. Without it, the child can hardly be brought up at all, and even after infancy it is perhaps the most important food of every one of us. Nothing has done more to lessen the death rate, especially the tragic death rate of the past among infants, than have improvements in the milk supply. The very qualities which have made milk so necessary have made it dangerous, because it contains all the food values which make it an almost ideal medium for the growth of bacteria and germs. A contaminated milk supply carries in its train death, sorrow and misery. Sanitary regulations may protect, pasteurization may protect, the prohibition of the sale of loose milk may protect, and these things have saved more lives than the Great War cost. But so long as milk

comes to the consumer in liquid form these are only protections and not guarantees of safety. A careless dealer, a dirty bottle, an ignorant mother, and death enters the house and another life is sacrificed. All the complicated mechanisms of collection and distribution, the dairies at the farms, the cans and the wagons, the milk trains reaching out hundreds of miles from the cities, the great plants for pasteurizing and bottling, the early morning milkman, the refrigerator in the home, all these things are expensive and difficult steps to secure a milk supply which can never be as safe, as abundant or as cheap as is required by society.

All these troubles are inherent in liquid milk because it is bulky and because under ordinary conditions it will not keep. The countless billions of bacteria about us are always on the alert, looking for some chance made by carelessness or ignorance to pollute the milk. And without laboratory examination we often cannot tell whether the milk has been polluted, and we believe we are safe when we are in danger. The ideal toward which we have been working has been to change milk from something subject to the difficulties I have mentioned into a staple; into a food as safe and as convenient as our bread or our sugar; into something not dependent upon local conditions for its production and upon immediate use in its consumption, but something which can be produced at the time and place of best supply and used at the place and time of greatest need. None of the valuable qualities may be changed or altered; it must be milk when used as it must have been milk when it was drawn from the cow. Many people have dreamed of accomplishing this, but, until we developed our processes for taking milk directly from the farm and reducing it to a powder so dry that bacteria cannot multiply in it, there has been no prospect of attaining our end. But now we have done this, and complete success is in sight. There is much still to be done, both in perfecting our methods and processes and overcoming the minor defects in the product incident to new ways, and in providing for an adequate volume of production and an adequate instruction of the consuming public as to its advantages and the best methods of using it. But the main work has been done; we have proved our proposition and now need only to develop and perfect it. Few people realize the difficulties we have had to overcome and the variety of problems we have had

to solve, problems chemical and bacteriological, problems physical and mechanical, problems commercial and financial, problems of production and of marketing, problems of the psychology of the farmer who grows the milk and the operator who manufactures it and the consumer who uses it. The other great ideal toward which we have been striving is the solution of the milk question for tropical and semi-tropical countries. The work of men like McCollum has proved that there is no adequate source of the vitamines necessary for our development other than in milk-fat. The lack of proper milk supply has made it almost impossible for us to live permanently in health and especially to bring up our children in the tropics. The Englishman in India, the American in the Philippines, has had to send his children home to be reared, and the natives themselves of such lands have mostly lacked the vigor and stamina of those races bred upon an adequate supply of milk. If I am not greatly mistaken, the work which we have been doing will within a measurable term of years result in opening one-half of the habitable globe to the permanent occupation of men of our race, and in making an extraordinary regeneration and improvement in the physical and consequent mental condition of native inhabitants. Who can say that there are no ideals or sentiment in business? Is not the work we are endeavoring to do as big, as important, as fascinating as any which men have ever attempted? We have had imagination, we have yielded ourselves to its witcheries, and the unscaled peaks to which it is leading us are marvellous in their beauty and their promise.

The above is from an address by the President of Canadian Milk Products, Limited, to the Sales and Production Staffs. It struck our Sales Department that it was such a cry of inspiration to them that it might likewise interest some of those who are using our goods.

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A MODERN NECESSITY

"Man may be endowed with marvellous will-power," says a Canadian writer, "and when he discourses upon this superiority is prone to boast until vanity swells him up like the toy balloon that reaches its maximum strain only to burst into nothingness. There have been men who have of their own volition given up smoking; but they are so few they may be mentioned in dispatches in the smokers' gazette." The journalist who wrote these words probably was a smoker himself, like most men of his craft in Canada. The Player's Navy Cut cigarette has become a necessity to mankind.

The Color of Cocoa

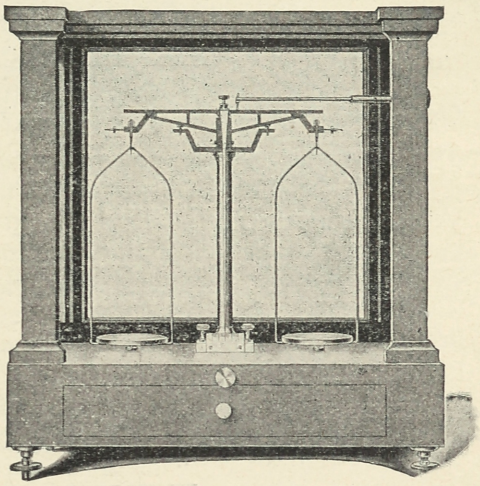
One of the interesting things about cocoa is its color, and it is one test for purity that the housekeeper can easily apply by purchasing a can of Baker's Breakfast Cocoa and noting carefully its rich, red brown color. This is the natural color of high grade cocoa beans unchanged by the action of chemicals. When cocoa has been subjected to the chemical or so-called "Dutch" process it takes on a much darker color, sometimes nearly black.

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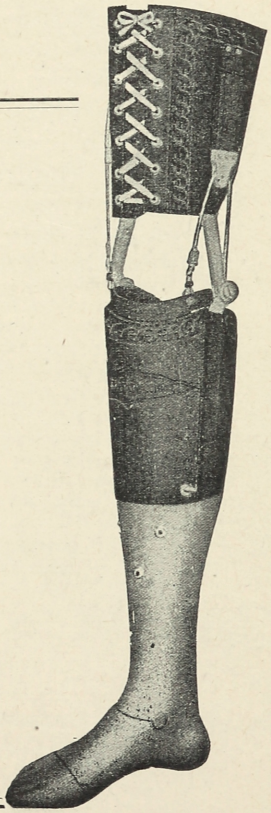
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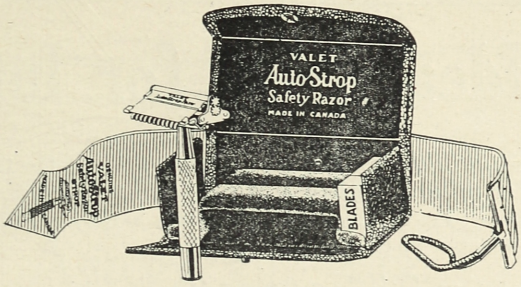
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IT may be reckoned as a favorable sign that the new President of the United States is a devotee of tobacco in many forms, for besides being a smoker, President Harding finds enjoyment in chewing tobacco. Although Ex-President Wilson is not a user himself, he agrees with Harding to the extent of recognizing the advantage of chewing tobacco in helping men to think. It was Woodrow Wilson who said: "A Western Senator often is more useful than his Eastern colleague, because sometimes he chews Virginia leaf."



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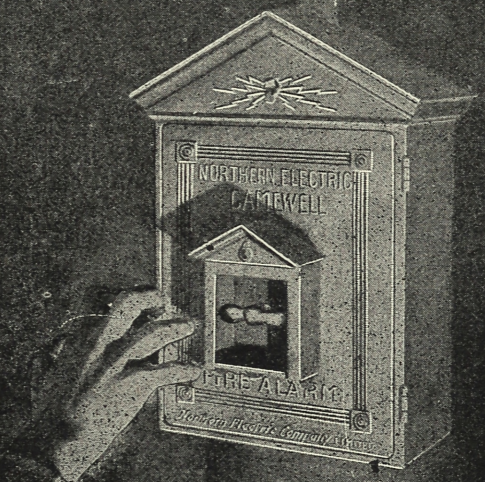
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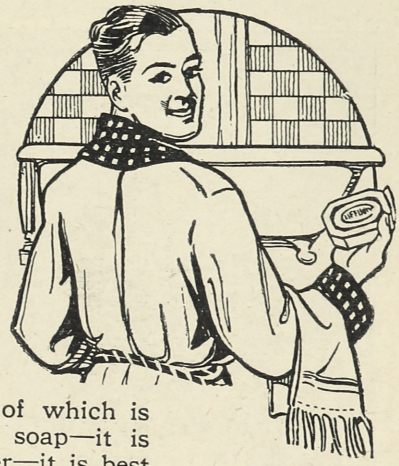
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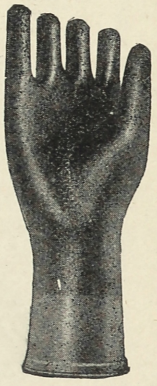
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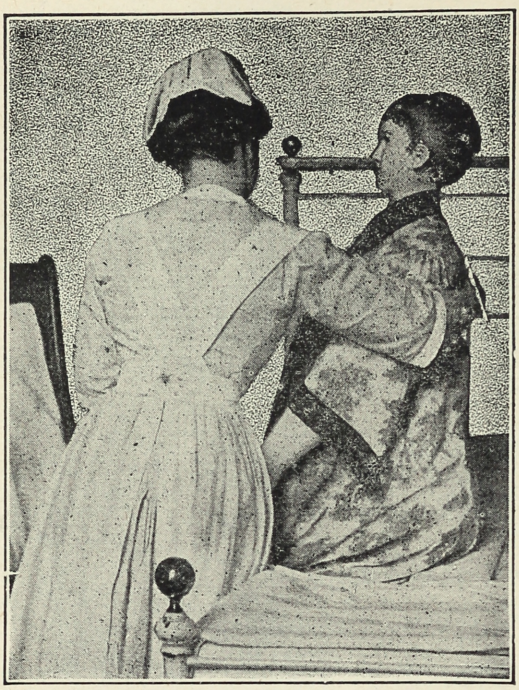
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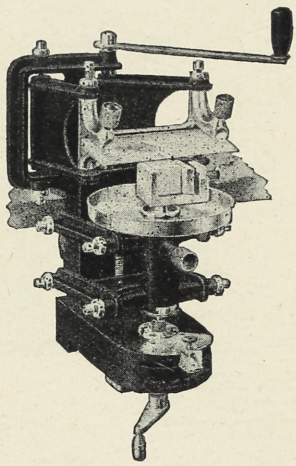
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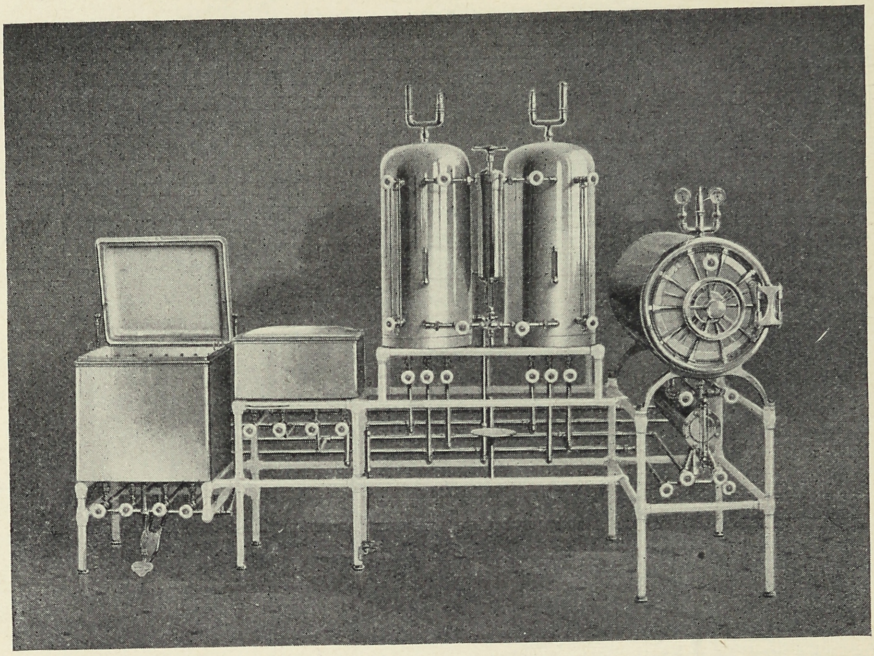
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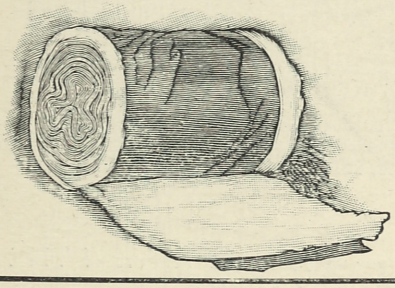
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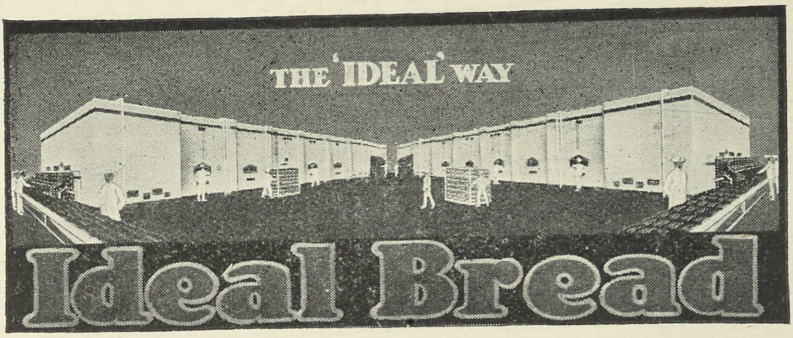
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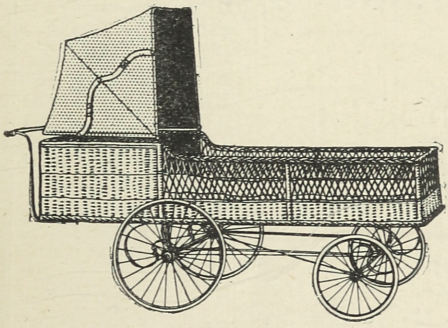
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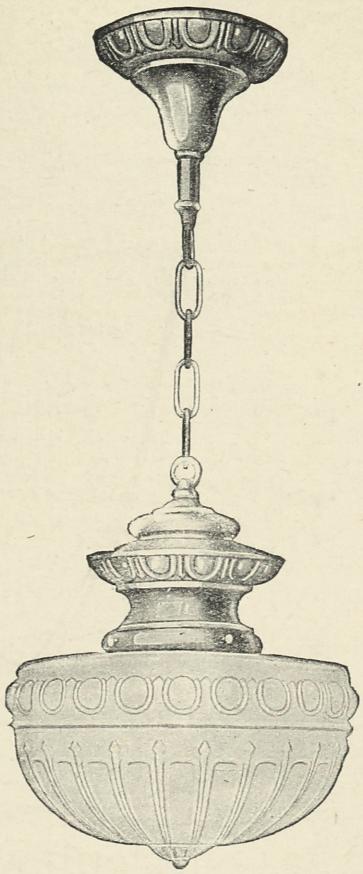


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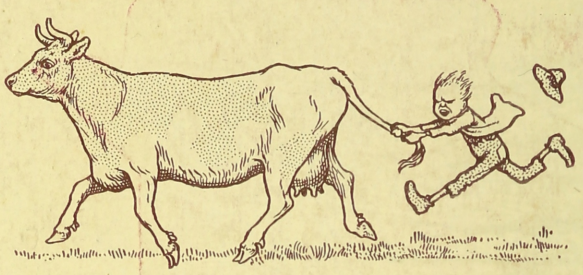
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